

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY,)	
)	
Approval of the Energy Efficiency and)	Docket No. 07-0540
Demand-Response Plan Pursuant to Section 12-103(f) of)	
the Public Utilities Act)	

Rebuttal Testimony of
JAMES C. EBER
Manager, Demand Response and Dynamic Pricing
Commonwealth Edison Company

OFFICIAL FILE
I.C.C. DOCKET NO. 07-0540
ComEd Exhibit No. 10.0 & 10.1
Witness _____
Date 1/4/08 Report _____

December 21, 2007

ComEd Ex. 10.0

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1 **I. Introduction**

2 **A. Identification of Witness**

3 Q. Please state your name.

4 A. James C. Eber.

5 Q. Are you the same James C. Eber who submitted direct testimony on behalf of
6 Commonwealth Edison Company ("ComEd") in this docket?

7 A. Yes. My initial testimony is ComEd Exhibit 3.0.

8 **B. Purpose of Testimony**

9 Q. What is the purpose of your rebuttal testimony?

10 A. The purpose of my rebuttal testimony is to respond to the Direct Testimony of
11 Christopher Thomas on behalf of the Citizens Utility Board ("Board"), and specifically
12 Mr. Thomas's statements that: (1) the cost estimates for ComEd's proposed Nature First
13 Expansion "appear to be inflated" (CUB Ex. 1.0, p. 4) and (2) ComEd's proposed Rider
14 EDA – Energy Efficiency and Demand Response Adjustment "does not include all
15 offsetting revenues that ComEd could receive from PJM energy and capacity markets"
16 (*Id.*, p. 7).

17 **C. Summary of Conclusions**

18 Q. Please summarize your conclusions.

19 (1) The cost estimates for ComEd's proposed Nature First Expansion program are
20 reasonable, and at any rate ComEd will only recover through Rider EDA the actual
21 incremental costs incurred for the program.

(2) Mr. Thomas's estimate of "maximum energy revenues" ComEd could receive is inaccurate, as it overstates the number of times ComEd can call the Nature First program and fails to account for offsetting charges ComEd would have to pay for dispatching the program more frequently.

D. Identification of Exhibits

Q. What attachments are incorporated in your rebuttal testimony?

A. I have attached the following exhibit to my testimony:

Exhibit 10.1: Summary of Calculations of Net PJM Payment in 2007.

II. Nature First Expansion Cost Estimates

Q. CUB witness Mr. Thomas states that ComEd's estimated one-time promotional cost of \$80 per participant "seems excessive". (CUB Ex. 1.0, p. 4.) Could you please explain how ComEd estimated the \$80 cost?

A. ComEd has developed a proposal for a promotional campaign that is large enough to expand the existing Nature First program to the level necessary to meet the demand response requirements of Section 12-103(c) of the Public Utilities Act. ComEd calculated an estimate of an \$80 one-time acquisition cost per customer by dividing the projected cost of the promotional campaign by the number of new customers required to meet the statutory goal. The estimated cost of the promotional campaign is an incremental cost estimate (or revenue requirement), which should not be confused with the actual incremental costs that are to be recovered through Rider EDA. The true-up mechanism for recovering the actual incremental costs of the Nature First Expansion through Rider EDA is covered in more detail in Paul Crumrine's rebuttal testimony. (ComEd Ex. 11.0.)

45 Q. CUB witness Mr. Thomas also states that it is “inappropriate” to include an inflation
46 escalation factor in the O&M cost estimates for the Nature First Expansion “because it
47 increases costs without similarly recognizing the cost savings that the company will
48 undoubtedly receive from productivity gains.” (CUB Ex. 1.0, p. 6.) Is this accurate?

49 A. No. In support of this statement, Mr. Thomas cites a Bureau of Labor Statistics report,
50 “Productivity and Cost by Industry: Selected Service-Providing and Mining Industries,
51 2005.” It is true that this report, which CUB provided to ComEd in response to ComEd’s
52 Data Request No. CUB 1.02, states that the unit labor costs for “Power generation and
53 supply” (NAICS = 2211) decreased by 3.7% between 2004 and 2005. However, over
54 75% of the O&M cost projection for the Nature First Expansion program is due to
55 promoting and advertising the Nature First program, not electric power generation,
56 transmission and distribution functions. As such, the better NAICS number to estimate
57 the costs of labor for the majority of the Nature First Expansion O&M costs is
58 “Advertising Agencies” (NAICS = 54181), the unit labor costs for which actually
59 increased by 6.0% that same year. Given the types of O&M costs involved in the Nature
60 First Expansion, CUB’s statements regarding “productivity gains” in its testimony simply
61 are not accurate.

62 **III. PJM Energy & Capacity Market Revenues**

63 Q. Mr. Thomas states that ComEd could have received \$527,308 in energy revenues from
64 PJM had it called the Nature First program the “maximum” number of times (20) during
65 2007. (CUB Ex. 1.0, p. 8.) Is this accurate?

66 A. No. The estimate of \$527,308 is based on information provided in ComEd’s response to
67 Data Request No. CUB 1.09. CUB’s use of that particular figure contains unrealistic

assumptions that do not take into account that: (1) ComEd can only call the Nature First program ten times per year on its own, not twenty times, and (2) there are charges to ComEd from PJM for calling the program ten times. As shown in ComEd Ex. 10.1, calling Nature First ten times, on the ten hottest days of the year, would result in a gross payment from PJM to ComEd of \$311,051. In order to obtain the \$311,051 payment from PJM, ComEd would incur \$225,722 in additional charges. The net PJM payment less PJM charges to ComEd therefore would be \$85,328.

Of course, the \$85,328 estimate assumes that ComEd could perfectly predict when the ten hottest days would occur. Unless this circumstance existed, the payment that ComEd would receive from PJM would be reduced to less than \$85,328. Also, these figures are based on calling the program in 2007 under the 2007 PJM rules. The PJM rules are scheduled to change in 2008, and the future net PJM payment less PJM charges of the resource may be zero.

Q. Mr. Thomas recommends that the Commission "order ComEd to schedule demand response events for Nature First to maximize energy revenues," and suggests that the event be scheduled on the twenty "hottest days of the year." (CUB Ex. 1.0, p. 9.) Does ComEd have the option of calling the Nature First program twenty times per year?

A. No. Under the PJM capacity program, ComEd has committed to allow PJM the option to call the Nature First program up to ten times per year. Because the Nature First program can be called a maximum of only twenty times per year, ComEd has ten calls available that it can "self-schedule," or make on its own, per year. As stated in my direct testimony, ComEd believes that "increasing the number of times the Nature First Program participants are called during a summer would decrease customers' willingness

to participate in the program for the amount of incentive currently provided and increase the churn rate of program participants.” (ComEd Ex. 3.0, p. 10.)

Q. Using your 2007 example described above, please describe in more detail the \$225,722 in additional charges to ComEd from PJM if the Nature First program were called ten times per year.

A. Were the Nature First program called ten times in 2007, PJM would charge the customer’s Load Serving Entity (LSE) (in this case, ComEd) \$97,730, which is the difference between the Locational Marginal Price (LMP) (\$311,051) and the customer’s retail rate (\$213,321). The retail rate for ComEd would equal ComEd’s residential retail rate of 7.32 cents per kWh (\$73.20 per MWh). If the LMP were greater than \$75 per MWh, PJM would then split the retail rate and charge all LSEs in the zone a percentage equal to the load-weighted share of each LSE’s supply obligation. Because the load-weighted share of ComEd’s supply obligation is 60%, ComEd would pay an additional charge of \$127,993 ($\$213,321 \times 0.6$). The sum of the two charges (\$97,730 + \$127,993) results in a total charge to ComEd of \$225,722. As such, the net PJM payment less PJM charges ($\$311,051 - \$225,722$) would equal \$85,328. All payments from PJM will result in equal charges being applied to LSEs in the zone, including ComEd.

Q. What is the proper way to evaluate the potential maximum energy benefit to ComEd from calling the Nature First program?

A. The more appropriate way to value the marginal benefit from dispatching the Nature First program is to look at the net value, calculated as the LMP minus the retail rate. Under this more appropriate methodology, the maximum energy benefit ComEd could have

received from PJM for calling the Nature First program on the ten hottest days of 2007 for six hours each day was \$85,328. (*See* ComEd Ex. 10.1.)

Given this \$85,328 maximum energy benefit, and based upon the 55,387 Nature First participants in the analysis, the maximum additional benefit per customer from calling the program ten times in 2007 would be \$1.54 per customer. This \$1.54 benefit per customer does not offset the additional costs ComEd would incur by calling the program ten times per year. These additional costs would include those related to customers churning off of the program (*i.e.*, \$80 to reacquire a customer through promotions, \$55 to remove an old customer's switch, \$65 to install the new customer's switch, and the cost of additional calls to ComEd's call center that occur during a curtailment event).

Q. Mr. Thomas's testimony states that "studies have found that direct load control can achieve significant peak load reductions without moving outside of the comfort zones established by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) basic comfort guidelines." (CUB Ex. 1.0, p. 3.) Would the ASHRAE comfort standard explained in Figure 5 of CUB Exhibit 1.03 apply to all customers participating in the Nature First program?

A. No. The comfort standard referenced in Jason Black's paper "Demand Response as a Substitute for Electric Power System Infrastructure Investments" (CUB Ex. 1.03) is from the 2001 ASHRAE Fundamentals Handbook and is called ASHRAE Standard 55. In referring to Standard 55, page 8.12 of the 2001 ASHRAE Fundamentals Handbook states that "[t]his standard specifies conditions or comfort zones where 80% of sedentary or slightly active persons find the environment thermally acceptable." Standard 55 would

136 leave 20% of sedentary or slightly active persons finding the environment thermally
137 unacceptable. Applying Standard 55 to Nature First, which had over 55,000 participants
138 in 2007, would mean that potentially over 11,000 customers could be out of their comfort
139 zone ten times per year. Many of these customers might in turn drop out of the program.
140 The cost of having thousands of customers drop out of the Nature First program due to
141 increases in the number of times the program is called per year far out weighs the
142 potential \$1.54 per customer benefit ComEd could gain by calling the program ten times
143 per year.

144 Q. Does this conclude your rebuttal testimony?

145 A. Yes.

Summary of Calculations of Net PJM Payment in 2007

of Customers Total KW KW Per Customer
55,387 54,977 0.99

Calculated from Noon to 6 PM

Date	Day of Week	Average Temp	Max Temp	Average LMP	Payment NF Credit	LMP less Retail Rate	Retail Rate
6/7/2007	Thursday	79	94	93.24	\$27,166.14	\$7,044.51	\$20,121.63
6/14/2007	Thursday	78	92	90.15	\$25,711.58	\$5,558.20	\$20,153.38
6/15/2007	Friday	81	92	102.60	\$33,845.04	\$9,699.08	\$24,145.96
6/18/2007	Monday	81	91	108.48	\$35,783.55	\$11,637.59	\$24,145.96
6/25/2007	Monday	79	91	56.59	\$4,254.17	\$229.84	\$4,024.33
6/26/2007	Tuesday	77	91	91.56	\$30,200.97	\$6,055.02	\$24,145.96
6/27/2007	Wednesday	82	91	93.83	\$30,950.19	\$6,804.23	\$24,145.96
7/5/2007	Thursday	82	91	151.09	\$49,838.80	\$25,692.84	\$24,145.96
7/9/2007	Monday	82	91	108.24	\$35,703.32	\$11,557.36	\$24,145.96
7/30/2007	Monday	79	91	113.98	\$37,596.93	\$13,450.97	\$24,145.96
Total					\$311,051	\$97,730	\$213,321

PJM Credit to ComEd		PJM Credit to ComEd
PJM Charges to ComEd		
LMP less Retail Rate		\$97,730
Load Weighted Share of Retail Rate (80%)		\$127,993
Total PJM Charges to ComEd		\$225,722
PJM Credit to ComEd less Total PJM Charges to ComEd		\$85,328

PJM Charges to all other LSEs Load Weighted (40%) \$85,328